

III. REMARKS

1. Claims 1-41 remain in the application.
2. The specification has been amended to add headings in compliance with US practice and to correct a typographical error.
3. The Abstract of the Disclosure has been amended to comply with MPEP 608.01(b).
4. Applicants appreciate the indication that claims 37-40 are allowed.
5. Applicants also appreciate the indication that claims 6, 10-13, 15-18, and 24-36 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. However, Applicants believe that these claims are patentable as they stand for the reasons stated below.
6. Applicants respectfully submit that claims 1, 19 and 41 are not anticipated by Etoh (US RE 37,668).

Etoh fails to disclose or suggest that the filtering performed on the block boundary depends on block types of the frame in the environment of the block boundary as recited by claim 1.

Etoh also fails to disclose or suggest that the filter is arranged to operate adaptively according to the block types of the frame in the environment of the block boundary as recited by claim 19.

Etoh further fails to disclose or suggest that a software program comprises machine executable steps for filtering adaptively according to the block types of the frame in the environment of the block boundary as recited by claim 41.

Etoh discloses an image encoding/decoding device which comprises smoothing means 19. The smoothing means performs filtering to edges of an image. The smoothing means comprise vertical, horizontal and diagonal edge-detecting filters. The edge filters use a certain weight pattern which weights the pixels of a block under examination by certain values. The output values of all the edge-detecting filters are used to determine a complexity value of contour C. The smoothing filter outputs a linear edge as unaltered (C is 0) and a complex curve as smoothed curve (C equals Cmax). This is not the same as the inventive feature of the present invention, namely that the filtering performed on the block boundary depends on block types of the frames in the environment of the block boundary.

According to the preamble of the claim 1 of the present invention the block type is defined according to the coding method for a block selected from a predetermined set of coding types. Therefore the block type of the present invention is different from the block types of the cited reference in which the pixel values or differences between values of adjacent pixels are used to determine the filtering method.

At least for these reasons, Applicants respectfully submit that claims 1, 19, and 41 are not anticipated by Etoh.

7. Applicants respectfully submit that claims 1-5, 7-9, 14 and 19-23 are not anticipated by Kim et al. "A Deblocking Filter With Two Separate Modes in Block-Based Video Coding", IEEE

Transaction on Circuits And Systems For Video Technology, vol. 9, no. 1, pp. 156-160, February 1999 ("Kim").

Kim, like Etoh, fails to disclose or suggest that the filtering performed on the block boundary depends on block types of the frame in the environment of the block boundary as recited by claim 1.

Kim also fails to disclose or suggest that the filter is arranged to operate adaptively according to the block types of the frame in the environment of the block boundary as recited by claim 19.

Kim is directed to a deblocking filter with two separate modes of block-based video coding. In Kim, the filtering mode is selected on the basis of pixel behavior around the block boundary. The first filtering mode is selected when there is a flat region near the block boundary and the artifacts propagated from the previous frame due to motion compensation are distributed inside the block because the human visual system is more sensitive to flat regions. The second filtering mode is selected when there are no flat regions in the environment of the block boundary. Kim has no disclosure related to determining the block types around the block boundary. Therefore, the filtering method in Kim is not selected on the basis of block types in the environment of the block boundary.

At least for these reasons, Applicants respectfully submit that independent claims 1 and 19, and dependent claim claims 2-5, 7-9, 14 and 20-23 are not anticipated by Kim.

8. Applicants respectfully submit that claim 41 is patentable over Kim.

Kim has no disclosure related to a software program that comprises machine executable steps for filtering adaptively according to the block types of the frame in the environment of the block boundary.

As mentioned above, Kim discloses two modes of block-based video coding, selected on the basis of pixel behavior around the block boundary. The first filtering mode is selected based on a flat region near the block boundary and the second is selected when there are no flat regions in the environment of the block boundary. Because Kim fails to disclose or suggest determining the block types around the block boundary, the filtering method in Kim is not selected on the basis of block types in the environment of the block boundary.

At least for these reasons, Applicants respectfully submit that claim 41 is patentable over Kim.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of \$950.00 is enclosed for a 3 month ~~4~~ extension of time.

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Respectfully submitted,

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